HIV/AIDS KNOWLEDGE OF SECONDARY SCHOOL LEARNERS IN SEFHARE, BOTSWANA

B.A. Adenuga, MPH graduate
Department of Health Studies
University of South Africa

V.J. Ehlers, D Litt et Phil
Department of Health Studies
University of South Africa
Corresponding author: ehlervj@unisa.ac.za

ABSTRACT

Quantitative, descriptive research, using self-completion questionnaires, was conducted to determine the level of HIV/AIDS knowledge of 92 secondary school learners in Sefhare, Botswana. Of the 92 respondents, about half could explain what HIV/AIDS was, but only 13.6% said AIDS is caused by HIV and only 4.5% said AIDS is an incurable disease. The ABC of protecting oneself against HIV (abstain from sex, be faithful to one sex partner, use condoms) was mentioned by merely 57.6% of the learners.

The learners' lack of knowledge should be addressed by school HIV/AIDS programmes offered in Botswana. As 81.5% of the learners were willing to be tested for HIV, this service should be made available with simultaneous confidential personal HIV/AIDS education, irrespective of the HIV test results. Teachers' and parents' HIV/AIDS knowledge should also be updated regularly.

KEYWORDS: Botswana's HIV/AIDS school programme, HIV/AIDS knowledge, prevention of HIV infection, secondary school learners' sexual behaviours

INTRODUCTION AND BACKGROUND INFORMATION

The Sub-Saharan Africa (SSA) region housed 68% of all HIV-positive people in 2007 and 76% (1.6 million) of AIDS deaths occurred in this region (UNAIDS, 2007:4). It has been estimated that 1.7–2.4 million people in SSA were newly infected with HIV during 2007. The majority of people living with HIV in SSA (61%) are female (UNAIDS, 2007:15).

The impact of HIV in SSA threatens development in all sectors of society. Although people of all ages are affected by the virus, most of those affected are in the 25–45 age

group. This group is particularly important not only in terms of economic productivity but also as caregivers, parents and providers. The loss of productive workers and increased spending on health care services require difficult decisions about resource allocations across all government sectors (UNAIDS, 2005:12).

HIV/AIDS in Botswana

Botswana had a population of 1.76 million during 2005. High HIV prevalence rates, estimated to be 32.4% among pregnant women attending government antenatal clinics, have been reported in Botswana (MoH, 2006:27; NACA/CSO, 2006). During 2002, Botswana launched its official anti-retroviral therapy (ART) programme on a national scale, providing free anti-retrovirals (ARVs) to patients who met the criteria (WHO, 2006:85). ART improved HIV-positive people's survival rates and enhanced their quality of life by reducing the number of opportunistic infections. However, ARVs do not cure HIV/AIDS.

According to Kinghorn Coombe, McKay and Johnson (2002:19), 35.5% of all HIV infections among females, and 14.0% among males, occur between the ages of 15 and 19. This implies that secondary school learners, falling within this age range, need to become knowledgeable about sexual issues, including HIV/AIDS, so that they can make informed decisions to protect themselves and their sexual partners. The population group aged 10–24 could be regarded as offering a 'window of hope' because preventing HIV transmission in this age group will reduce the overall incidence and prevalence rates of HIV/AIDS in Botswana (WHO, 2006:2).

RESEARCH PROBLEM

Kinghorn et al. (2002: ii) state that: 'Levels of basic HIV/AIDS knowledge among young people are generally high, but there is no clear sign that teenage infection rates are falling'. This also applies to Botswana, where the government offers HIV/AIDS programmes at schools, but the HIV/AIDS prevalence rates have not subsided, thus implying that learners might have inadequate knowledge and that some misperceptions about the spread of HIV/AIDS might persist. While it is acknowledged that information alone does not necessarily translate into actions, knowledgeable learners are more likely to be able to make informed decisions. The research problem was to determine Sefhare secondary school learners' level of knowledge of HIV/AIDS and to identify aspects that needed to be addressed by Botswana's HIV/AIDS school programme in future.

Purpose and objectives of the study

The purpose of the current study was to determine what secondary school learners actually knew about HIV/AIDS and to identify their sources of knowledge. The objectives of the study attempted to identify the secondary school learners' HIV/AIDS knowledge; to identify methods for reducing HIV infection rates among secondary school learners; and to provide recommendations for enhancing secondary school learners' knowledge in order to reduce the spread of HIV/AIDS among this group of learners. Recommendations could be made to improve secondary school learners' knowledge about HIV/AIDS.

RESEARCH METHODS AND DESIGN

A non-experimental, quantitative, descriptive study was used. This approach was deemed suitable because the phenomenon (secondary school learners' HIV/AIDS knowledge) was recorded in quantifiable terms in questionnaires. The purpose of the study was to describe learners' existing HIV/AIDS knowledge, rather than to explain any underlying causes, and to determine the frequencies of specific responses.

Research setting

Sefhare is a village situated in the central region of Botswana. During 2007, it had a population of 4 195 persons (comprising 1 838 males and 2 357 females) (CSO, 2008).

Research population and sample

The study population comprised form 1–3 (equivalent to grades 8–10 in other countries' school systems) learners, both boys and girls, in one secondary school in Sefhare (N = 418). Potential respondents were included in the study population if their ages ranged from 13–19 years and if they were enrolled learners (both boys and girls) at the participating secondary school during 2009. The sample in this study comprised 92 learners who were willing to complete questionnaires and whose parents/guardians signed consent forms, producing a non-probability and convenient sample.

Data collection instrument

A questionnaire with open and closed-ended items was developed specifically for the study to collect data related to HIV/AIDS knowledge of secondary school learners. The sequence in which questions were arranged was simple and understandable by form 1–3 learners. The questionnaire items, derived from the literature review, were grouped into four sections pertaining to demographic data, learners' HIV/AIDS knowledge, learners'

sources of HIV/AIDS information and learners' knowledge about ways of protecting themselves against HIV infection.

Reliability and validity

The reliability of a research instrument refers to the consistency with which it measures certain attributes (De Vos, 2002:169). This implies that if the same instrument is used on different occasions, similar results should be obtained. The statistician determined Cronbach's alpha to be 0.623, which is the reliability coefficient, indicating the accuracy or precision of an instrument (De Vos 2002:168-169). It is the consistency with which an instrument measures the target attribute. Stommel and Wills (2004:209) define reliability as the relative absence of unsystematic, random measurement error. A reliability coefficient of 0.623 was deemed acceptable for a self-designed instrument.

The validity of a research instrument can be defined as the extent to which the instrument measures what it is intended to measure (Stommel & Wills 2004:422). Content validity, concerned with the adequacy of the content being measured by the instrument, was accounted for because all the items asked questions about the learners' HIV/AIDS knowledge. Aspects addressed included HIV/AIDS facts, myths, modes of transmission and means of protection. Construct validity refers to an instrument's ability to maintain a reasonable relationship among variables (Babbie & Mouton, 2001:122). A factor analysis indicated that every item in the questionnaire was relevant to learners' HIV/AIDS knowledge.

Pre-testing of the instrument

Prior to the commencement of the actual data collection process, ten secondary school learners (excluded from participation in the actual study) were requested to complete questionnaires. They managed to do so within 30 minutes and encountered no problems, claiming to understand all the questions.

Data collection

The purpose of the study was explained to the form 1–3 learners, and those interested in participating in the study, took forms home to obtain their parents/guardians' consent. Every learner who returned a signed consent form, and who assented to participation, was handed a questionnaire. The first author remained on the school campus for two days to hand out and receive questionnaires. He was available for answering any questions. Every completed questionnaire was hand delivered to him. After two days, 92 completed questionnaires had been returned and data collection was discontinued.

Data analysis

Data were analysed using the Statistical Package for Social Science (SPSS) version 16. A statistician assisted with the transcribing of data from questionnaires to the SPSS program and for calculating relevant statistics.

ETHICAL CONSIDERATIONS

Research ethics observed in the study were in accordance with those stated by Burns and Grove (2005:181–190), namely the principles of beneficence, respect of human dignity and justice.

Permission to conduct the research was requested from and granted by the Ethics and Research Committee of the Department of Health Studies, University of South Africa (Unisa) after submission of a research proposal. Thereafter, permission was requested from, and granted by, the Botswana Ministry of Health (MoH) through the National Health Research Committee to conduct the research in one secondary school in Sefhare. The principal of the participating school also gave permission.

The first author explained the study's purpose to the learners with emphasis on voluntary participation, confidentiality and honesty. Those learners who volunteered to participate in the study were asked to request their parents/guardians to sign the consent forms. Each volunteer took a consent form and an information letter to his/her parents/guardians. Each learner who returned a signed consent form also had to assent to participation before a questionnaire was handed to him/her.

The learners and their parents/guardians were informed that the learners' responses would remain anonymous; participation was voluntary; and any learner could discontinue participation without incurring any ill effects. As only questionnaires were completed, the respondents were not subjected to any harmful effects. However, supplying answers about sexual matters might have been embarrassing to some learners. The first author could be contacted in case any learner and/or parent wished to discuss anything concerning the research project and the questionnaire. Confidentiality and anonymity were maintained as no identifying information was collected from the respondents. The completed questionnaires were kept locked up and were accessible to the researchers and statistician only. Research reports would only portray figures and statistics and discussions but no names.

ANALYSIS AND DISCUSSION OF RESEARCH RESULTS

Demographic information

The age group with the highest representation was 15–19 (75%; n = 69) while the age group 13–14 had the lowest representation with 25% (n = 23). Girls made up 62% (n = 57) and boys 38% (n = 35) of the respondents. With respect to religious affiliations, 88.1% (n = 81) of the respondents reported their religious affiliations while 11.9% (n = 11) gave no response. Of the respondents, 60.5% (n = 49) were Christians, 34.6% (n = 28) were traditional worshippers, while 4.9% (n = 4) indicated they were 'Islam'. Of the learners, 64.1% (n = 59) came from rural areas and 31.5% (n = 29) from urban areas (4 failed to answer this question). The learners were in forms 1–3: 27.2% (n = 25) were in form 1; 33.7% (n = 31) in form 2 and 39.1% (n = 36) in form 3.

HIV/AIDS knowledge

The meaning of HIV/AIDS

With regard to the learners' knowledge about HIV/AIDS, only 53.4% (n = 47) knew the meaning of these abbreviations. Of the respondents, only 4.5% (n = 4) stated that HIV/AIDS is incurable while eight (8.7%) respondents gave no response.

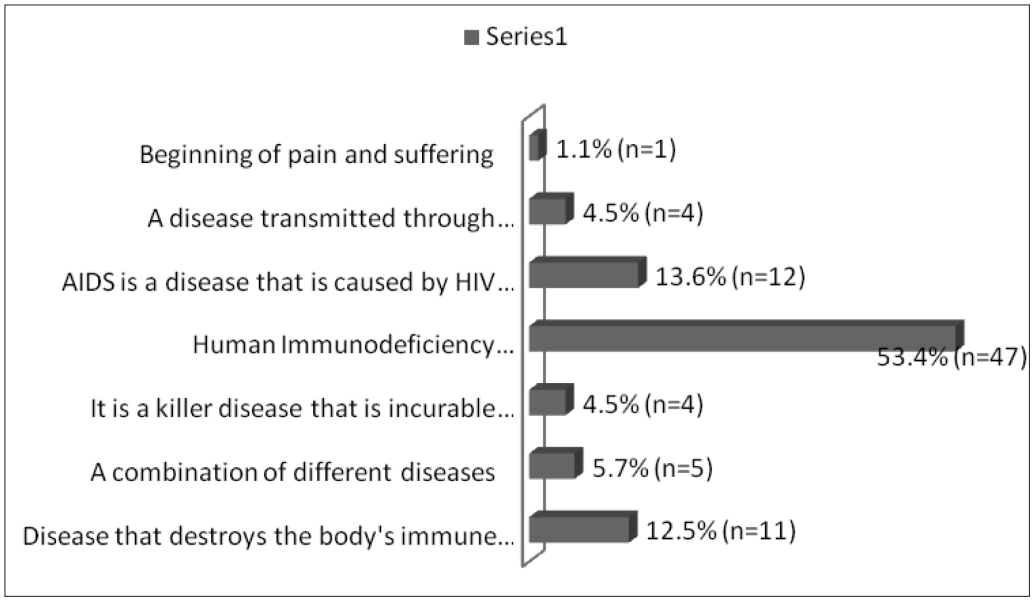

Figure 1: Respondents' knowledge about the meaning of HIV/AIDS (n = 92)

The learners' knowledge about the meaning of HIV/AIDS was cross-tabulated according to their school forms. The calculated Chi-square (X^2) of 22.02 was less than the tabulated X^2 of 23.68 ($p = 0.05$; $df = 14$), indicating that there was no significant difference between learners' responses in terms of their school forms.

Modes of transmission of HIV/AIDS

With regard to the modes of transmission of HIV, 81.5% (n = 75) of the secondary school learners knew HIV could be transmitted through unprotected sexual intercourse, while 46.7% (n = 43) knew that a blood transfusion could be a route for HIV transmission. Of the respondents, 53.3% (n = 49) did not know that HIV could be transmitted through blood transfusions. In the study carried out by Mlingo (2008) in Zimbabwe, a similar result was obtained in which 96.0% of the learners in Harare, Zimbabwe, knew that unprotected sex is the major mode of HIV transmission. In the same study, 25.3% of the respondents knew that HIV transmission could occur through the use of sharp objects (Mlingo, 2008:47).

Questions regarding myths associated with HIV produced mixed responses. As many as 89.1% (n = 82) of the respondents knew that HIV could not be transmitted through mosquito bites while 10.8% (n = 10) thought this could happen. This is a lower percentage as compared to 69.2% and 71.6% reported for the age groups 10–14 and 15–19 respectively, in the report of Botswana's National AIDS Coordinating Agency (NACA 2006:35). Although 91.3% (n = 84) of the learners did not know if there could be HIV transmission by sharing plates of food with HIV positive persons, 4.3% (n = 4) considered HIV transmission possible in this way. Almost all (94.6%; n = 87) of the respondents, knew that sharing toilets with HIV positive persons could not result in HIV transmission while 5.4% (n = 5) thought this was possible. Of the respondents, 92.4% (n = 85) knew that HIV transmission could not occur through coughing by an infected person. Also, 89.1% (n = 82) responded that HIV could not be transmitted through tattooing, while 10.3% (n = 10) of the respondents knew that HIV could be transmitted through this route. This finding was in line with the fact that only 31.5% knew that HIV could be transmitted by sharing sharp objects with infected persons.

Prevention of HIV/AIDS

With regard to behaviours necessary to maintain one's negative HIV status, only 37% (n = 34) responded. Of these respondents, 100% (n = 34) stated that abstinence was necessary to maintain one's HIV negative status, being faithful to one partner was mentioned by 61.8% (n = 21) and the use of condoms was mentioned by 64.7% (n = 22). Of the 34 respondents, 41.2% (n = 14) mentioned three different behaviours to remain HIV negative, 11.8% (n = 4) mentioned two and 47.0% (n = 16) mentioned only one.

Voluntary counselling and testing

Of the respondents, 89.1% (n = 82) had not been tested for HIV, while only 10.9% (n = 10) had been tested. Only 19.5% (n = 17) did not want to undergo voluntary counselling and testing (VCT). As many as 81.5% (n = 75) indicated that they were willing to undergo VCT, but failed to indicate why they had not yet done so. These results correspond with those of NACA (2006:37) indicating that of the Botswana's youths, aged 10–14, only 0.8% had undergone VCT while 10.5% of those aged 15–19 had done so.

Sources of information about sex and sexuality issues

According to the responses given to the question about the learners' sources of information concerning issues pertaining to sex and sexuality, multiple sources were mentioned. Teachers as sources of information about sex and sexuality were mentioned by 33% (n = 30) of the respondents and 23.9% (n = 22) mentioned medical doctors. Figure 2 shows the learners' responses with respect to their sources of information about sex and sexuality, including HIV/AIDS.

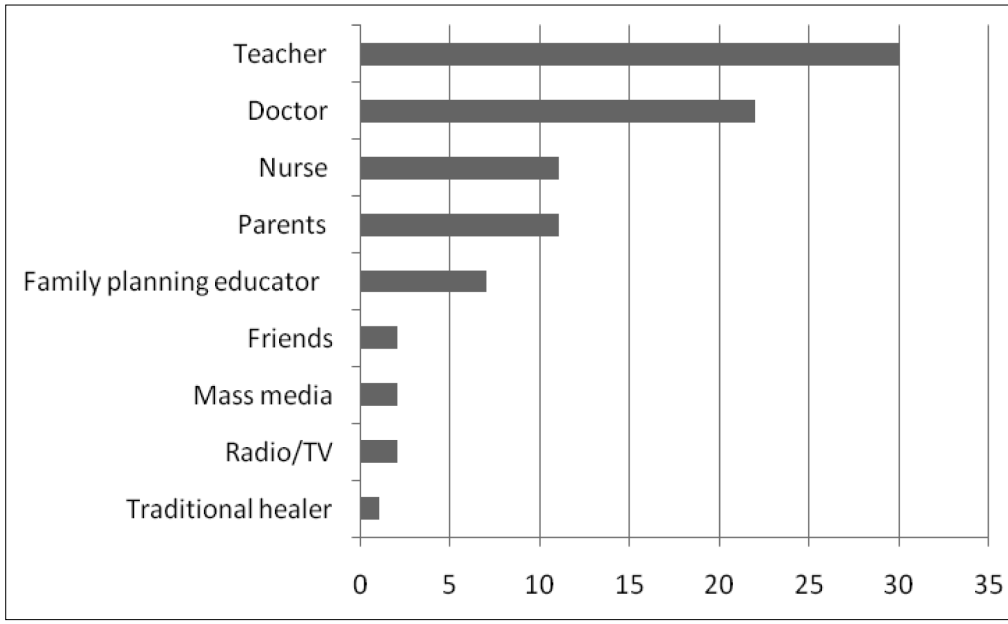

Figure 2: Learners' sources of information about sex and sexuality, including HIV/AIDS (n = 92)

As most learners obtained their information from teachers, the school HIV/AIDS curriculum might have had some impact on learners' HIV/AIDS knowledge. Few nurses and few parents were information sources, probably indicating that these are the

people who should be empowered to share HIV/AIDS knowledge with learners. The small number of learners who indicated the mass media and radio/TV as their sources of information could be accounted for by the scarcity of these sources in rural areas of Botswana.

Learners' perceived risks of HIV infection

In response to an open-ended question about their perceived risk of being infected with HIV, only 31.5% (n = 29) responded, while 68.5% (n = 63) failed to do so. Figure 3 summarises the responses to this open-ended question.

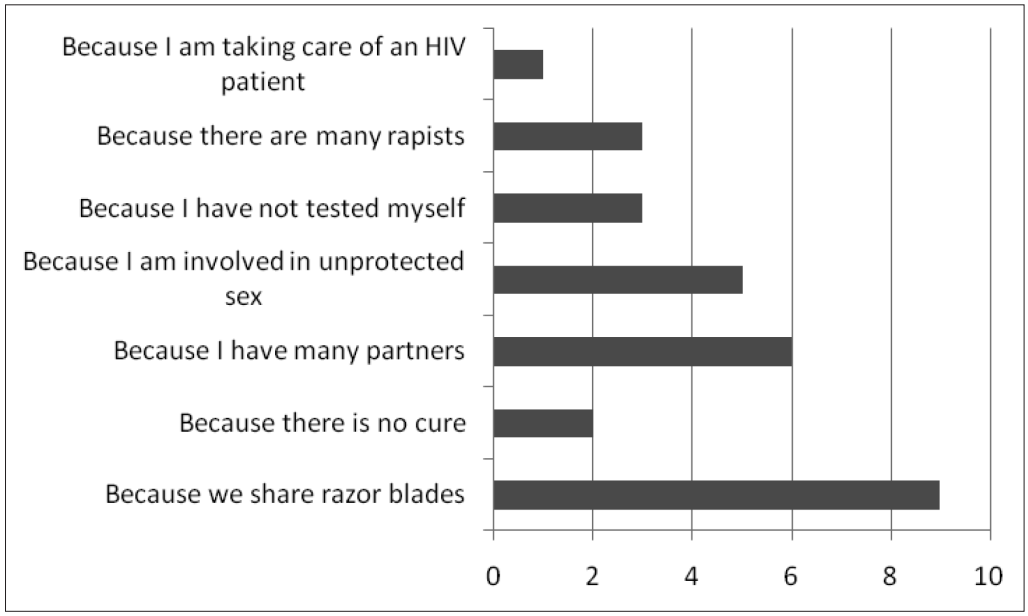

Figure 3: Learners' perceived risks of contracting HIV (n = 92)

The 29 (31.5%) secondary school learners who answered this question, knew they were at risk of contracting HIV, mainly because they shared razor blades, had many sexual partners and engaged in unprotected sex. These three risk factors could be controlled by the learners themselves.

Learners' knowledge about protecting themselves from contracting HIV

According to the learners, the most important things to know about HIV/AIDS are to know how HIV is spread (32.7%; n = 18), that HIV is incurable (16.4%; n = 9) and how to protect oneself (14.5%; n = 8). However, only 41.2% (n = 14) of the 34 learners who

responded to an open-ended question mentioned the ABC of HIV prevention; 100.0% (n = 34) mentioned abstinence; 61.8% (n = 21) mentioned being faithful and 64.7% (n = 22) mentioned condoms. If the Botswana school HIV/AIDS programme had been successful, 100% of learners should have mentioned all three aspects.

Early sexual activities were attributed to peer pressure by 74.7% (n = 65) of the respondents. The major risks of young girls having sex with older men, were reported to be sexually transmitted infections (84.0%; n = 68), including HIV, and pregnancy (84.0%; n = 68).

CONCLUSIONS

Despite Botswana's HIV/AIDS school programme, only 56.0% (n = 47) of the learners knew the meaning of the acronyms HIV and AIDS, and only 41.2% (n = 14) mentioned the ABC of preventing HIV infections, in response to an open-ended question. Unless 100% of the secondary school learners know these three basic steps of preventing HIV/AIDS, this programme cannot claim to be successful. Similarly, only 81.5% (n = 75) learners knew that unprotected sex was the major mode of HIV transmission – a basic fact that should be known by every learner exposed to a school HIV/AIDS programme. Those learners who perceived themselves to be at risk of contracting HIV, indicated their reasons as sharing razor blades, having many sex partners and engaging in unprotected sex. All these behaviours are under the control of the learners themselves. Effective HIV/AIDS school programmes should address these behaviours.

Although only a minority of learners (10.9%; n = 10) had undergone VCT, most (81.5%; n = 75) would be willing to do so. This offers a unique opportunity to provide trustworthy diagnostic and counselling services to youths to impact on the HIV transmission rates among this group of people.

Most learners (74.7%; n = 65) engaged in sexual encounters as a result of peer pressure. Most learners acquired their HIV/AIDS knowledge from their teachers, but only a few did so from their parents, from nurses and from the radio/television.

RECOMMENDATIONS

The Botswana school HIV/AIDS programme's curriculum should be re-evaluated. The basic foundational knowledge of HIV/AIDS issues and the ABC of prevention (including that unprotected sex is the major mode of HIV transmission) should be known by 100% of all secondary school learners.

As 81.5% (n = 75) of the learners were reportedly willing to undergo VCT, these services should be made accessible to learners on a regular basis, while safeguarding their respect

and confidentiality. Effective pre-test and post-test counselling must be provided to all learners undergoing VCT irrespective of the results, which must be trustworthy.

The school HIV/AIDS programme should enable learners to become resistant to peer pressure and to resist engaging in sexual encounters as a result of such pressures. Learners should also learn to accept responsibility for their behaviours such as sharing razor blades, having multiple sexual partners and engaging in unprotected sex. By changing these three behaviours, learners' risks of contracting HIV could be reduced.

The impact of the Botswana HIV/AIDS school programme probably explains why most learners obtained their knowledge from their teachers. The teachers should become knowledgeable and trustworthy sources of information by attending regular in-service education sessions. However, information sessions should be offered jointly to parents and learners so that communication about sexual issues and HIV/AIDS can be promoted between learners and their parents.

Training and employing learners, and out-of-school youths, as health educators and as lay HIV/AIDS counsellors might help to make the VCT and ART services more acceptable and more accessible to youths, including secondary school learners.

The ABCD approach, where D indicates diagnosis through VCT, should be offered to secondary school learners as 81.5% (n = 75) indicated that they would be willing to undergo VCT. This could be a meaningful step towards combating the spread of HIV among Botswana's youth, ensuring that fewer HIV-positive babies are born in future, and that more women will use prevention of MTCT services effectively, and enabling the future parents to be well informed about HIV/AIDS. Thus enhancing the HIV/AIDS knowledge of secondary school learners is a prerequisite for addressing the spread of this epidemic in Botswana. The impact of the Botswana school HIV/AIDS programme should be expanded.

LIMITATIONS OF THE STUDY

Only form 1–3 learners from one secondary school participated in the study and only 92 completed questionnaires were used during the data analysis. Consequently, the results might not be generalisable to other schools or other areas in Botswana.

Non-random convenience sampling was used. Questionnaires were only completed by learners who volunteered to participate in the study and whose parents/guardians signed consent forms. There is no guarantee that the HIV/AIDS knowledge of the respondents was similar to that of the learners who did not complete questionnaires.

Questionnaires were used to collect data. More in-depth data might have been obtained if face-to-face interviews had been conducted, and potential misunderstandings could have been identified and addressed. The research findings reflect only the learners' HIV/AIDS knowledge, not their implementation of this knowledge.

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